



Lager or Ale? What's the difference?

Plenty!

The common thing to all alcoholic beverages is fermentation. For beer this involves the conversion of sugars from malted barley, into ethanol (the alcohol we drink) by a yeast species called *Saccharomyces cerevisiae* of which there are over 15,000 strains in yeast banks around the world, many of which are for beer making (the rest are for industrial uses, winemaking, spirit production, baking, etc.).

It is the genetic differences between these strains that influence the flavour profile of different beer styles. So much so that in North America and Europe home brewers spend more time choosing the yeast variety than the can of extract!

Good ale yeast typically has an ideal fermentation temperature of 18°- 22°C this type of yeast is only able to ferment relatively simple sugars leaving behind the less fermentable ones giving a sweeter finishing beer (which is often balanced by bitter hopping) and beers with a great deal of texture and mouth feel. Ale yeast is the oldest type used for beer making (used even before it was discovered!)

It is worth noting that you cannot make a lager style beer with this yeast and temperature range! Ales were usually made from darker roasted malts with full flavour and colour development and benefit from hard water. Historically this was due to the inefficiency of the malt house and a lack of temperature control in the kiln. It was later discovered that the less the malt was roasted, the greater the amount of malt sugars could be extracted. This, when added to a smaller amount of darker malt, yields more beer per tonne of grain. This pale malt can also be used on its own or blended to produce darker ales.

A lager yeast strain has a much lower fermentation temperature range (6°-16°C) This yeast type produces a generally dryer crisper finishing beer. Modern lagers are generally light in colour but in the past were also made from dark malts.

They were first discovered by accident when ale brews that were cold stored began to spontaneously ferment. An astute brewer noticed that it appeared to be bottom fermenting (we still call ales strains top fermenters and lagers bottom fermenters even though both actually ferment in the body of the brew). He also found the beer that resulted wasn't a bad drop either! History records that the first beer that we would call a lager was brewed in the town of Pilsen in what is now the Czech Republic on 5 October 1842. The combination of pale colour from the new light malts, Pilsen's remarkably soft water, and noble hops from nearby Saaz and Bavarian-style, low temperature lagering, produced a clear, golden beer which was regarded as a sensation.

Makers of brew kits therefore face a major dilemma – What yeast to put under the cap? Not an easy decision, when they don't know where in the country the can will end up, and certainly not what season it will be brewed. So the yeast shipped is one that will give a reasonable result over a broad range of temperatures - not one that is best for the beer style in most cases. Fortunately, much work has been done now that gives home brewers access to different yeast strains to replace the generic variety and achieve excellent, true to style results, as good, if not better than commercial brews.

So drop in to Hervey Bay Home Brew and have a chat about how you can take your brews to the next level.